

IN THE DRAWING(S):

Submitted herewith are attached Replacement Sheets of Drawings that are intended to replace the original filed drawing sheets.

Attachment: Five (5) Replacement Sheets (Figures 1-9).

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Final Office Action of November 3, 2006, the Examiner rejected claims 1-4 and 9, under 35 U.S.C. §102(b), as allegedly being anticipated by Sommargren '066 (U.S. Patent No. 4,859,066); rejected claims 18-24, under 35 U.S.C. §102(b), as allegedly being anticipated by Loopstra '964 (U.S. Patent No. 6,020,964); and rejected claims 5-8 and 10-17, under 35 U.S.C. 103(a), as allegedly being anticipated by Sommargren '066 in view of Loopstra '964.

By this Amendment, Applicants have amended claims 1-3, 10-11, 12-17, 18, and 23 to provide a clearer presentation of the claimed subject matter. In particular, method claim 18 has been amended so that the structural elements positively affect the operation of the method. Applicants submit that no new matter has been introduced. As such claims are currently presented for examination, of which claims 1, 3, 10-11, and 18 are independent.

Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §102(b) and §103(a) for the following reasons.

I. Prior Art Rejections

As noted above, independent claim 1, as amended, positively recites the use of a single beam splitter configured to split a radiation beam associated with said plane mirror interferometer system and a radiation beam associated with said differential plane mirror interferometer system into respective measuring beams and respective reference beams.

These features are amply supported by the embodiments disclosed in the written description. (See, U.S. Patent Pub. No. 2005/0111005 (Specification): par. [0092], [0100]; FIGs. 3a, 3b). Applicants point out that the written description provides that conventional systems employ two separate beam-splitters, each of which split radiation beams in respective measuring beams and reference beams. (See, U.S. Patent Pub. No. 2005/0111005 (Specification): par. [0016]).

To this end, the disclosed embodiments provide the combination of a plane mirror interferometer with a differential plane mirror interferometer into one polarizing beam-

splitter 30. (See, U.S. Patent Pub. No. 2005/0111005 (Specification): par. [0092]). Such a combination provides a very versatile interferometer system is provided, which is capable of determining displacement in two different directions with only one polarizing beam-splitter 30. (See, U.S. Patent Pub. No. 2005/0111005 (Specification): par. [0100]).

With this said, Applicants submit that, unlike the present invention, none of the asserted references teach or suggest each and every element of claim 1, including the features identified above. In particular, the Sommargren '066 reference specifically teaches the use of two beam splitters in which a beam 12 is incident upon a (first) beam splitter 14 to generate beams 16 and 17 that measure linear and angular displacement, respectively. (See, Sommargren '066: col. 3, lines 25-42; FIG. 1). Beams 16 and 17 are then incident upon a (second) beam splitter 80 to respectively generate polarized beam components 20, 22 and 19, 21. (See, Sommargren '066: col. 3, lines 45-52; col. 4, lines 58-65; FIG. 1).

As such, Sommargren '066 clearly fails to teach or suggest the use of *a single beam splitter* configured to split a radiation beam associated with said plane mirror interferometer system and a radiation beam associated with said differential plane mirror interferometer system into respective measuring beams and respective reference beams, as required by claim 1.

Applicants further submit that the secondary reference, Loopstra '964, is incapable of curing the deficiencies identified above relative to Sommargren '066. Stated differently, Loopstra '964 also teaches the use of two beam splitters 71 and 72 in which a part of a beam **b₅** from the laser is reflected by the beam splitter 71 as beam **b₆** to the interferometer unit 73 and beam **b₇** passed by the beam splitter 71 is split by the beam splitter 72 into a beam **b₈** which is reflected to the interferometer unit 74 and into a beam **b₉** which is passed to the interferometer unit 75. (See, Loopstra '964: col. 12, lines 30-50; FIG. 2).

For at least these reasons, Applicants submit that none of the asserted references, whether taken alone or in combination, teach each and every element of claim 1. As such, claim 1 is clearly patentable over the applied references. In addition, because claim 2 depends from claim 1, claim 2 is patentable at least by virtue of dependency as well as for its additional recitations. Accordingly, the immediate withdrawal of the prior art rejections of claims 1-2 is respectfully requested.

Furthermore, because independent claims 3, 10, 11 and 18 recite similar patentable features as noted above with respect to claim 1, claims 3, 10, 11 and 18 are also patentable for at least the reasons submitted relative to claim 1. And, because claims 4-9, 12-17, and 19-24 depend from independent claims 3, 11 and 18, respectively, claims 4-9, 12-17, and 19-24 are also patentable by virtue of dependency as well as for their additional recitations.

II. Conclusion.

All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants submits that the entry of this Amendment is proper under 37 C.F.R. §1.116, as the claim changes: (a) place the application in condition for allowance for the reasons discussed herein; (b) *do not require any further consideration as the claim changes employ limitations that should have already been searched*; and (c) places the application in better form for an Appeal, should an Appeal be necessary.

Applicant's Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. Should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the Undersigned.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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